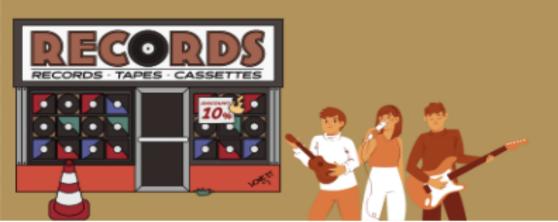
#### **Problem Statement**

The music store aims to optimize its business strategies and enhance customer engagement by analyzing its data. They want analysis that will provide insights about employee hierarchy, invoice distribution, customer spending patterns, and music preferences.

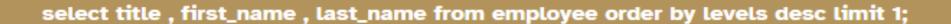
By understanding these aspects, the store can identify top-performing employees, target high-revenue cities for promotions, understand customer preferences for personalized marketing, and recognize popular music genres and artists.

These insights will drive more informed decision-making and contribute to the store's growth and customer satisfaction.





Q1: Who is the senior most employee based on job title?



	title	first_name	last_name
Þ	General Manager	Andrew	Adams

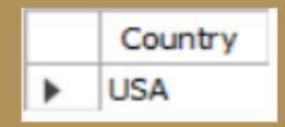




Q2: Which countries have the most Invoices?

select billing\_country as "Country" from invoice group by billing\_country order by count(invoice\_id) desc limit 1;







Q3: What are top 3 values of total invoice?

#### Select

invoice\_id,customer\_id,invoice\_date,billing\_address,billing\_city,billing\_country,billing\_postal\_code,total from

(select \* , dense\_rank() over(order by total desc) as Ranking from invoice ) as T1 where Ranking<4;

	invoice_id	customer_id	invoice_date	billing_address	billing_city	billing_country	billing_postal_code	total
•	183	42	2018-02-09 00:00:00	9, Place Louis Barthou	Bordeaux	France	33000	23.75999999999998
	31	3	2017-02-21 00:00:00	1498 rue BÃ@langer	MontrÃ@al	Canada	H2G 1A7	19.8
	92	32	2017-07-02 00:00:00	696 Osborne Street	Winnipeg	Canada	R3L 2B9	19.8
	362	29	2019-05-24 00:00:00	796 Dundas Street West	Toronto	Canada	M6J 1V1	19.8
	526	5	2020-06-08 00:00:00	Klanova 9/506	Prague	Czech Republic	14700	19.8
	276	22	2018-09-07 00:00:00	120 S Orange Ave	Orlando	USA	32801	18.81





Q4: Which city has the best customers? We would like to throw a promotional Music Festival in the city we made the most money. Write a query that returns one city that has the highest sum of invoice totals.

Return both the city name & sum of all invoice totals.

select billing\_city,sum(total) as Total\_Invoices from invoice group by billing\_city order by Total\_Invoices desc limit 1;

	billing_city	Total_Invoices
١	Prague	273.24000000000007





Q5: Who is the best customer? The customer who has spent the most money will be declared the best customer.

Write a query that returns the person who has spent the most money.

select concat(c.first\_name," ",c.last\_name) as "Customer\_Name",sum(total) as Total\_Invoices from invoice i inner join customer c on i.customer\_id=c.customer\_id group by 1 order by Total\_Invoices desc limit 1;

	Customer_Name	Total_Invoices
•	FrantiÅiek WichterlovÃi	144.540000000000002





Q6: Write query to return the email, first name, last name, & Genre of all Rock Music listeners.

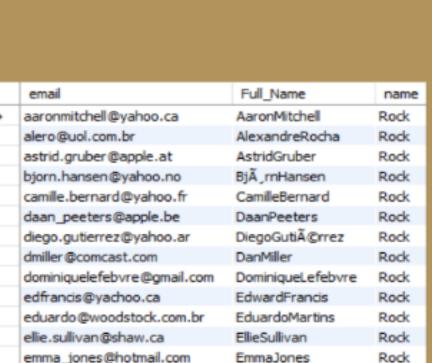
Return your list ordered alphabetically by email starting with A.

select distinct(a.email),concat(a.first\_name,a.last\_name) as

"Full\_Name",e.name from customer as a inner join invoice as b on a.customer\_id=b.customer\_id inner join invoice\_line as c on b.invoice\_id=c.invoice\_id

inner join track as d on c.track\_id=d.track\_id
inner join genre as e on d.genre\_id=e.genre\_id
where e.name="Rock" order by a.email;





EnriqueMuñoz

enrique munoz@yahoo.es



Many more entries..

Rock

Q7: Let's invite the artists who have written the most rock music in our dataset. Write a query that returns the Artist name and total track count of the top 10 rock bands.

select max(a.name) as Name, count(track\_id) as Total\_tracks from artist a inner join album al on a.artist\_id=al.artist\_id inner join track t on al.album\_id=t.album\_id inner join genre g on t.genre\_id=g.genre\_id where g.name like "Rock" group by a.artist\_id order by Total\_tracks desc limit 10;





	Name	Total_tracks
•	AC/DC	18
	Aerosmith	15
	Audioslave	14
	Led Zeppelin	14
	Alanis Morissette	13
	Alice In Chains	12
	Frank Zappa & Captain Beefheart	9
	Accept	4

Q9: Find how much amount spent by each customer on artists?

Write a query to return customer name, artist name and total spent but only for best selling artist.

with cte as (
select a.name,a.artist\_id,sum(il.unit\_price\*il.quantity) as Total\_Price from artist a inner Join album al on a.artist\_id=al.artist\_id

inner Join track t on al.album\_id=t.album\_id

inner Join invoice\_line il on t.track\_id=il.track\_id

group by 1,2 order by Total\_Price desc

limit 1) -- gets that best selling artist







select c.first\_name as Customer\_Name,cte.name as
Artist\_Name,sum(il.unit\_price\*il.quantity) as Total\_Value from
customer c inner join invoice i on i.customer\_id=c.customer\_id
inner join invoice\_line il on il.invoice\_id=i.invoice\_id
inner join track t on t.track\_id=il.track\_id
inner join album al on al.album\_id=t.album\_id
inner join cte on al.artist\_id=cte.artist\_id
group by 1,2
order by Total\_Value desc;

-- - get customer wise money for that best selling artist

Q9: Find how much amount spent by each customer on artists?

Write a query to return customer name, artist name and total spent but only for best selling artist.

	Customer_Name	Artist_Name	Total_Value
٠	Steve	AC/DC	17.82
	Phil	AC/DC	10.89
	Kathy	AC/DC	10.89
	Frank	AC/DC	10.89
	StanisÂaw	AC/DC	9.9
	LuÃ-s	AC/DC	7.9200000000000001
	Martha	AC/DC	3.96
	Helena	AC/DC	2.969999999999998
	Terhi	AC/DC	2.969999999999998
	Madalena	AC/DC	2.969999999999998
	Wyatt	AC/DC	2.969999999999998
	Niklas	AC/DC	2.969999999999998
	Kara	AC/DC	1.98
	JoÃEo	AC/DC	1.98
	Patrick	AC/DC	1.98
	Luis	AC/DC	1.98
	Dan	AC/DC	1.98
	Edward	AC/DC	1.98
	Mark	AC/DC	1.98
	FrantiÅiek	AC/DC	1.98
	Tim	AC/DC	0.99





Many more entries...

Q10: We want to find out the most popular music Genre for each country. We determine the most popular genre as the genre with the highest amount of purchases. Write a query that returns each country along with the top Genre. For countries where the maximum number of purchases is shared return all Genres.

with ct as(select c.country,g.name as Genre\_Name,count(il.quantity) as
Total\_Tracks ,dense\_rank() over(partition by c.country order by count(il.quantity)

desc) as Ranking

from customer c

inner join invoice i on c.customer\_id=i.customer\_id

inner Join invoice\_line il on il.invoice\_id=i.invoice\_id

inner join track t on t.track\_id =iLtrack\_id

inner join genre g on g.genre\_id=t.genre\_id group by 1,2)

select country, Genre\_Name, Total\_Tracks from ct where Ranking=1;





country	Genre_Name	Total_Tracks
Argentina	Rock	1
Australia	Rock	18
Austria	Rock	6
Belgium	Rock	5
Brazil	Rock	26
Canada	Rock	57
Chile	Rock	7
Czech Republic	Rock	14
Denmark	Rock	6
Finland	Rock	6
France	Rock	26
Germany	Rock	28
Hungary	Rock	4
India	Rock	13
Ireland	Rock	2
Italy	Rock	3
Netherlands	Rock	6
Norway	Metal	2
Poland	Rock	14
Portugal	Rock	23
Spain	Metal	4
Sweden	Rock	5
United Kingdom	Rock	47
USA	Rock	70

Q11: Write a query that determines the customer that has spent the most on music for each country.

Write a query that returns the country along with the top customer and how much they spent. For countries where the top amount spent is shared, provide all customers who spent this amount.

with cvt as (

select c.country,c.first\_name as Name , sum(il.unit\_price\*il.quantity) as

Total\_Price ,dense\_rank() over(partition by c.country order by

sum(iLunit\_price\*iLquantity) desc)as Ranking

from customer c

inner join invoice i on c.customer\_id=i.customer\_id

inner join invoice\_line il on i.invoice\_id=il.invoice\_id

group by 1,2)

select country,Name,round(Total\_Price,2) as Total from cvt where Ranking=1;





	country	Name	Total
•	Argentina	Diego	39.6
	Australia	Mark	81.18
	Austria	Astrid	69.3
	Belgium	Daan	60.39
	Brazil	LuÃ-s	108.9
	Canada	François	99.99
	Chile	Luis	97.02
	Czech Republic	FrantiÅiek	144.54
	Denmark	Kara	37.62
	Finland	Terhi	79.2
	France	Wyatt	99.99
	Germany	Fynn	94.05
	Hungary	Ladislav	78.21
	India	Manoj	111.87
	Ireland	Hugh	114.84
	Italy	Lucas	50.49
	Netherlands	Johannes	65.34
	Norway	BjÃ_rn	72.27
	Poland	StanisÂ,aw	76.23
	Portugal	João	102.96
	Spain	Enrique	98.01
	Sweden	Joakim	75.24
	United Kingdom	Phil	98.01
	USA	Frank	145.53

#### **Insights & Scope of improvement**

- Andrew Adams is senior-most employee & can be used to mentor junior employees and to shape succession planning.
- As USA is country with most invoices hence, focusing marketing efforts and resources can increase market penetration.
- As Prague makes the most money(\$273.24) we can throw a promotional Music Festival there.
- We can develop personalized marketing and exclusive offers for FrantiÅjek WichterlovÃj who is the best customer to encourage even higher spending.
- We can feature AC/DC,Aerosmith and other top rock artists in promotions and events to attract their fan
  base and boost sales and mention top rock series customer like Aaron ,Alexender and Astrid that will
  attract other customer to buy more rock music. or we can create targeted marketing strategies, offering
  exclusive content or merchandise to these to high-spending customers.





- Overall Rock is most selling genre so we can add more of its tracks to inventory to increase sales.
- We can implement country-specific loyalty programs and exclusive rewards for top-spending customers to increase retention and spending.

